CLAIMS

1. A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;

a steel beam having a lower flange, an upper flange, and a web therebetween;

the beam being welded orthogonal to the first flange of the column; and

a separation of the beam flange from the beam web equal to or greater than 3.0 times the beam flange thickness in length in the beam positioned adjacent to the lower flange of the beam and adjacent to the first flange of the column.

2. A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;

a steel beam having a first flange, a second flange, and a web therebetween;

the beam being welded orthogonal to the first flange of the column;

a separation of the beam flange from the beam web equal to or greater than 3.0 times the beam flange thickness in length in the beam positioned adjacent to the first flange of the beam and adjacent to the first flange of the column; and

a separation of the beam flange from the beam web equal to or greater than 3.0 times the beam flange thickness in

length in the beam positioned adjacent to the second flange of the beam and adjacent to the first flange of the column.

3. The framework of claims 1 or 2 wherein the beam web and beam flange separation comprises a slot that is tapered from a first relatively wide slot width near the column and beam interface to a second relatively narrow slot width near the opposite end of the slot and narrower than the first slot width.

not shown

4. The framework of any claims 1-3 wherein the end of the slot away from the column terminates with a circular radius equal to one half the width of the end of the slot.

5. A method for relieving strain concentrations in a load bearing and moment frame connection of a steel frame having a welded beam to column connection with upper and lower beam flange welds, a steel beam due to seismic loads applied to the connection, comprising the steps of:

determining a first strain concentration factor for said connection;

determining a total amount of steel to be removed from the web of the beam to yield a second strain concentration factor having a value less than that of said first strain concentration factor, said first strain concentration factor and second strain concentration factor being determined at the

upper and lower beam flange welds and weld access holes at the connection;

removing a first portion of steel from the beam web near the upper beam flange and column flange weld and weld access hole;

removing a second portion of steel from the beam web near the lower beam flange and column flange weld and weld access hole; and,

whereby the total amount of the first portion and amount of the second portion of steel removed from the beam is equal to said total amount of steel removed.